SUMMARY OF NCEA COMMENTS ON FFRRO TECHNICAL FACTSHEETS – 6-30-17

1,2,3-trichloropropane (TCP)

- Corrected units for toxicity values; see attachment.

1,4-Dioxane

- Content-specific comments and corrected units for toxicity values; see attachment.

Nanomaterials

- NCEA did not review since we do not currently have a nanomaterial assessment.

N-Nitrosodimethylamine (NDMA)

- Corrected units for toxicity values; see attachment.
- There are two citations for "EPA 2007" – one is the PPRTV and the other is guidelines for testing procedures – the citations should be designated a & b and the citations revised accordingly. This should be corrected for the other citations with duplicate dates as well. We would also suggest that the references in the "Where can I find more information?" section be included in some standard format (e.g. APA, AMA, etc.) – or at least alphabetically & chronologically.
- On page 3, under federal and state guidelines, the second bullet presents the PPRTV assessment values. However, this RfC is a screening RfC which has greater uncertainty and is tiered lower in the OSRTI hierarchy so we suggest making the distinction. Proposed update (for accuracy and consistency):
    - ~~EPA has derived a RfD of 8.0 x 10-6 mg/kg-day and an RfC of 4.0 x 10-5 mg/m3 as Provisional Peer-Reviewed Toxicity Values (PPRTVs) for evaluating noncancer effects (EPA 2007).~~ Based on a provisional peer-reviewed toxicity value (PPRTV) assessment conducted by the EPA for NDMA, EPA established provisional subchronic and chronic RfDs of 8.0×10^{-6} mg/kg-day and a screening provisional chronic RfC of 4.0×10^{-5} mg/m^3 for NDMA. The PPRTV assessments are developed for use in the EPA Superfund program and provide toxicity values and information about adverse effects of the chemical (EPA 2007).

Perchlorate

- NCEA did not review since factsheet is on hold. Happy to look when ready.

Polybrominated diphenyl ethers (PBDE) and polybrominated biphenyls (PBB)

- Content-specific comments and corrected units for toxicity values; see attachment.

Tungsten

- Recommend removing statement: "In 2011 it was nominated for human health risk assessment under the EPA's Integrated Risk Information System (IRIS) agenda (EPA 2016b)." We've published IRIS agendas since then that supersede this information.
- The PPRTV for tungsten is not included in the reference list. We suggest including it. Additionally, the bullet that states that "A federal drinking water standard has not been established for tungsten. In addition, EPA has not derived a chronic inhalation reference concentration (RfC) or a chronic oral reference dose (RfD) for tungsten or tungsten compounds (EPA 2016c,d)" … is not necessarily true since EPA did derive provisional subchronic and chronic

RfDs in the 2015 PPRTV. It may be helpful to include a bullet that summarizes this.

- Suggested bullet (for completeness, accuracy and consistency):
    - Based on a provisional peer-reviewed toxicity value (PPRTV) assessment conducted by the EPA for soluble tungsten compounds, EPA established a provisional subchronic RfD of 8 x 10^{-3} mg W/kg-d and a chronic provisional RfD of 8 x 10^{-4} mg W/kg-d for soluble tungsten compounds. The PPRTV assessments are developed for use in the EPA Superfund program and provide toxicity values and information about adverse effects of the chemical (EPA 2015 [the PPRTV that isn't currently included]).

Perfluorooctanoic acid (PFOA) and perfluorooctane sulfonate (PFOS)

- NCEA did not review since factsheet is on hold. Happy to look when ready.

Dinitrotoluene (DNT)

- Corrected units for toxicity values; see attachment.
- On page 3, under federal and state guidelines, the second bullet presents the PPRTV assessment values. The chronic RfD value is a screening p-RfD. Below is a suggestion for updating the text to be consistent with how we characterize PPRTV values. Proposed update (for accuracy and consistency):
    - Based on a provisional peer-reviewed toxicity value (PPRTV) assessment conducted by the EPA for both 2,6-DNT and Tg-DNT, EPA established a screening provisional chronic RfD ~~screening value~~ of 3 x 10-4 mg/kg/day for 2,6-DNT and 9 x 10-4 mg/kg/day for Tg-DNT. The PPRTV assessments are developed for use in the EPA Superfund program and provide toxicity values and information about adverse effects of the chemical (EPA 2013a, b).

2,4,6-Trinitrotoluene (TNT)

- Corrected units for toxicity values; see attachment.

Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)

- Showstopper comments: On pg 3, under federal and state guidelines, the first and second bullets make comparisons to the public comment draft of the IRIS assessment of RDX. Draft assessments are provided for review purposes only and don't constitute formal dissemination by EPA. Accordingly, we strongly recommend removing the clauses in the first and second bullets of that section that compare the 1993 IRIS values to those provided in the draft assessment.
- Other comments:
    - Under "At a Glance," please change the text citing the draft toxicological review to be consistent with the most up-to-date version. Suggested language: "Draft RDX toxicological review released by EPA for peer review in September 2016."
    - Pg 3, routes of exposure and health effects, 3rd bullet. We recommend deleting the phrase "large amounts." Suggested revised language: "RDX targets the nervous system and can cause seizures in humans and animals when inhaled or ingested."
    - Pg 3, routes of exposure and health effects, 6th bullet. IRIS assessments are considered health assessments and not risk assessments. It would be more correct to drop the word "risk" in the first sentence of the bullet. Please also change the text in the second half of the sentence that cites the draft toxicological review to be consistent with the

most up-to-date version. See bullet below for link to the most current draft. Suggested revised language: "EPA plans to update its toxicity benchmarks and health assessment for RDX in its database of chemical toxicity values, the Integrated Risk Information System (IRIS); EPA issued the draft IRIS Toxicological Review of Hexahydro-1,3,5-Trinitro-1,3,5-Triazine (External Review Draft) (draft IRIS Toxicological Review) for peer review in September 2016 (2016b)."

- Pg 3, federal and state guidelines. If the last clauses for each of these bullets is retained, which is not recommended (see above), the citation "EPA 2015" is incorrect. Appropriate citation would be EPA 2016, and reference the most up-to-date version of the draft assessment, which is the peer review draft available here: (https://cfpub.epa.gov/ncea/iris_drafts/recordisplay.cfm?deid=322480).
- Pg 3, federal and state guidelines, 2nd bullet. The units for the oral slope factors are wrong ("mg/kg/day"). Correct units would be "per mg/kg-day". Similarly, the units for the drinking water unit risk, micrograms per liter (µg/L), are wrong. Correct units would be "per micrograms per liter (per µg/L)".
- Pg 3, federal and state guidelines, 4th bullet. As noted in the bullet above, it would be more correct to characterize IRIS assessments as health assessments and not risk assessments. Suggested revised language: "EPA health assessments indicate that…"
- Pg 4, federal and state guidelines, 4th bullet. It appears that the CCL 4 is now final. Suggest updating the first sentence to: "EPA included RDX on the fourth Contaminant Candidate List (CCL)."
- Pg 7, EPA 2015 and EPA 2016b references. We recommend replacing these references to the public comment draft IRIS assessment with the most up-to-date version of the draft assessment. The reference would read:
    - EPA. 2016b. IRIS Toxicological Review of Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX) (External Review Draft). U.S. Environmental Protection Agency, Washington, DC, EPA/635/R-16/208a. https://cfpub.epa.gov/ncea/iris_drafts/recordisplay.cfm?deid=322480
- Pg 7, web link to IRIS page is incorrect. Correct link is: https://cfpub.epa.gov/ncea/iris2/chemicalLanding.cfm?substance_nmbr=313